CLAIMS

1. A wireless communication apparatus for transmitting and receiving data between a first wireless station and a second wireless station in a wireless manner, wherein

the first wireless station and a second wireless station comprise:

transmitting/receiving units capable of switching a plurality of wireless channels; and

communication control units which transmit and receive the data containing information as to a second wireless channel different from a first wireless channel via the first wireless channel with respect to the transmitting/receiving units, and switch the first wireless channel to the second wireless channel.

2. The wireless communication apparatus as claimed in claim 1 wherein

the data contains identification information specific to either the first wireless station or the second wireless station, which performs the transmission and the reception; and

in the case that the identification information contained in the received data is made coincident with the identification information of the own wireless station, either the first wireless station or the second wireless station executes a wireless channel switching process operation based upon the data.

3. The wireless communication apparatus as claimed in claim 1 or 2, wherein

if the communication control unit can receive the data via a set wireless channel, the communication control unit judges that the set wireless channel is under use, and switches the set wireless channel to another communication channel; and

the communication control unit seeks an unused wireless channel which is not used by another communication by repeating until the data is not received, and selects the unused wireless channel as the second wireless channel.

4. The wireless communication apparatus as claimed in any one of claims 1 to 3, wherein

the second wireless station corresponds to a controller for driving a machine; and

the first wireless station corresponds to an operating terminal for operating the controller in a wireless manner.

5. A communication control method of a wireless communication apparatus for transmitting and receiving data between a first wireless station and a second wireless station in a wireless manner,

the method comprising the steps of:

when a wireless communication is commenced,

transmitting a calling signal which contains identification information of the second wireless station via a first wireless channel which has been previously and commonly

set by the first wireless station,

receiving a response signal from the second wireless station by the first wireless station,

when the first wireless station confirms the own identification information contained in the response signal, the first wireless station switches the first wireless channel to the second wireless channel based upon the information of the second wireless channel contained in the response signal,

receiving the calling signal from the first wireless station via the first wireless channel which has been previously and commonly set by the second wireless station, and

when the second wireless station confirms the own identification information which is contained in the calling signal, seeking a second wireless channel which is different from the first wireless channel and is not used by the second wireless station,

transmitting a response signal which contains the information of the second wireless channel and the identification information of the first wireless station via the first wireless channel by the second wireless station so as to switch the first wireless channel to the second wireless channel.